

West Nile Virus

West Nile Virus (WNV) is a mosquito-borne virus that was first detected in the United States in 1999 in the New York City area. The virus has since been identified in all 48 continental states and the District of Columbia. West Nile Virus may cause a wide range of clinical illness from mild, “flu-like” signs, to encephalitis (inflammation of the brain) that may be fatal to both humans and horses. While horses are susceptible to WNV, many horses infected with WNV will not develop any illness and recover uneventfully. Currently, there is no specific treatment.



Mosquitoes acquire WNV from infected birds and pass it on to other birds, animals, and people. Mosquitoes have not demonstrated the ability to feed on an infected horse and ingest enough of the virus to transmit it to other animals. Migratory birds are an important reservoir for WNV and have served as the major vector for spread of the virus into new areas.

Clinical Signs

Consult your veterinarian if your horse exhibits any of the following signs:

- Incoordination, especially in rear limbs causing stumbling and falling
- Drooping lips and lip smacking
- Generalized weakness
- Muscle twitching
- Head drooping, lethargy, and unresponsiveness
- Grinding teeth
- Hypersensitivity to touch or sound
- Fever
- Recumbency (inability to rise)
- Seizures and coma

The California Department of Food and Agriculture (CDFA) works with federal, state and local health and agricultural agencies to minimize the impact of WNV on the equine industry. West Nile Virus surveillance includes sampling dead birds, sentinel chickens, mosquito pools, horses, and humans.

CDFA confirms possible equine WNV cases, maintains horse surveillance data, and educates horse owners on control and prevention. The information collected is used by collaborating agencies to focus disease control efforts.



California Outbreak

West Nile Virus was first diagnosed in October 2003, in a 20-year-old unvaccinated Missouri Fox Trotter. In 2004, California became the disease epicenter with 540 confirmed clinical cases of WNV.

In 2005, California was again the epicenter of virus in the U.S. with 456 confirmed equine cases. Cases affected 43 of the 58 counties with a high percentage in the Central Valley. Of the 456 confirmed cases, 199 horses died or were euthanized. Of the 456 cases, 436 were either unvaccinated or improperly vaccinated according to manufacturers' recommendations. In 2006, numbers of confirmed equine cases slowed to 58, consistent with WNV becoming more endemic in California. Cases were distributed throughout the state with 23 of 58 counties affected. Of the 58 confirmed cases, 24 horses died or were euthanized. Of these 58 confirmed cases, 53 were either unvaccinated or improperly vaccinated according to manufacturer's recommendations.

There are currently three lines of approved WNV vaccine products available for horses. An initial series of at least two vaccines are required for two of the products, while label claims on the third product state that one initial dose is sufficient. All products require periodic “booster” injections for the life of the horse.

Horse owners are urged to consult their veterinary practitioner to ensure the vaccination status of all their horses is current.



Mosquito Control

You can decrease the chances of your horse being exposed to WNV by minimizing their exposure to mosquitoes, especially during the peak mosquito feeding period which is dusk to dawn. Applying mosquito repellent also effectively reduces the number of mosquito bites.

Additionally, mosquito breeding sites should be eliminated. Methods for eliminating mosquito-breeding sites include:

- Drain unnecessary standing water (wheelbarrows, tires, etc.)
- Clean water containers (bird baths, plant saucers, etc.), at least weekly
- Schedule pasture irrigation to minimize standing water
- Keep swimming pools optimally chlorinated and drain water from covers
- Stock water tanks with fish that eat mosquito larvae (local mosquito control may provide assistance), or use mosquito "dunks" available at hardware stores.



Important Phone Numbers

California Department of Food and Agriculture Animal Health Branch

Headquarters	(916) 654-1447
Redding District	(530) 225-2140
Modesto District	(209) 491-9350
Tulare District	(559) 685-3500
Ontario District	(909) 947-4462

Email: wnvirus@cdfa.ca.gov

www.cdfa.ca.gov/ahfss/ah/wnv_info.htm

California Animal Health and Food Safety Laboratories

Davis	(530) 752-8700
Fresno	(559) 498-7740
Tulare	(559) 688-7543
San Bernardino	(909) 383-4287

California West Nile Virus Hotline
1-877-968-2473
www.westnile.ca.gov

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Developed by the State of California, Department of Food and Agriculture, Animal Health and Food Safety Services, Animal Health Branch, 1220 N Street, Room A-107, Sacramento, CA 95814. Visit our Web site at www.cdfa.ca.gov for current information.

Additional formats available upon request.

March 2007

WNV_In_ca_Update_2007_b11.pmd



Animal Health and Food Safety Services
Animal Health Branch

Equine West Nile Virus in California

An Update for California Horse Owners



2007